

## Technology in Practice: Applications and Innovations

### Module title: Designing Environmental Solutions

#### Master Materials List

Consumable			
Item Description	Quantity for a class of 30	Optional	Chapter
Bag, garbage/trash	2–3		1
Bag, zip-top plastic sandwich	20		2
Baking soda, small box	1		2
Candle with holder	1		2
Cat litter, light-colored clay, ~7 lb	1		1
Drink mix, red, powdered, without sugar—Tbsp or small packets	10		1
Garbage from a 24-hour period	1	optional	1
Glue stick	10		1, 3
Marker, permanent	10		2
Markers or felt-tip pens of different colors	varies		DT, 4
Marker, transparency or dry erase	10		1
Matches, safety, box	1		2
Materials for creating a visual presentation (such as poster board or chart paper and markers, or a computer with presentation software)	varies		DT
Materials needed for testing the model of the solution (see Advance Preparation in the Elaborate)	varies		4
Materials needed to create a model of the solution (see Advance Preparation in the Explain)	varies		4
Materials to design a tool to turn a light switch on and off (such as rulers, straws, aluminum foil, tape, string, rubber bands, Styrofoam, dowels, pushpins, and balloons)	varies		DT
Oil, vegetable, 50 mL	10		3
Paper, 8½ × 11 in., blank	45	optional	1, 4
Paper clip	30	optional	4
Paper, graph	varies		3, 4

Paper, large: legal size, chart, or butcher paper	20		DT, 4
Paper towel, roll	1		1
Paper towel, white	20		2
Pens or pencils of different colors	varies		DT, 1, 2, 3, 4
pH paper (or a pH meter)	varies		2
Radish seed	200		2
Sand, white, ~15 lb	1		1
Sticky notes, 3 × 3 in. pad	30		DT, 4
String, ball	1		2
Tape, clear packing, 48 mm wide, roll	1		2
Tape, masking, roll	1		2
Tape, transparent, roll/dispenser	10		1, 3
Vinegar, small bottle	1		2
Water source	varies		1, 2, 3

Non-Consumable			
Item Description	Quantity for a class of 30	Optional	Chapter
Block, wood or plastic, ~2.5 cm high	10		1
Bottle, spray or squirt, plastic	10		1
Bowl, large, such as margarine tub	10		1
Box, plastic with clear sides	10		1
Eye dropper	10		3
Hole punch	10		2
Light switch	15	optional	DT
Newspapers, local (or other news resources)	varies	optional	4
Plastic pieces (or beans)	600		1
Plastic toy animal (or photo of same)	2–6		DT
Ruler, including metric measurement	10		1, 3
Scissors	15–30		1, 2
Spinners (or materials to make them; see Advance Preparation in the Elaborate)	10		1
Spoon (or craft stick)	10		1
Spoon, plastic	10		3
Tile, heat-resistant, white	1		2

Tokens for moving along game board, such as colored paper clips, coins, sticky notes	30		1
Tray, shallow (or bowl)	10		3

<b>Equipment</b>			
<b>Item Description</b>	<b>Quantity for a class of 30</b>	<b>Optional</b>	<b>Chapter</b>
Balance, large	1	optional	1
Beaker, graduated, 250 mL	10		1, 3
Clock, large, with a second hand that is visible to all students (or 1 stopwatch per team)	1		1, 3
Graduated cylinder (25 or 50 mL)	10		2
Graduated cylinder (50 or 100 mL)	10		3

<b>Safety</b>			
<b>Item Description</b>	<b>Quantity for a class of 30</b>	<b>Optional</b>	<b>Chapter</b>
Gloves, latex (or nitrile)	30	optional	2
Goggles, safety	30		3
Mop and bucket (or towels)	1	optional	3